

Meeting Summary.

Following is a summary of the issues discussed at the PoliceStat meeting on November 12, 2015. Analysis provided by the Office of Performance and Data Analytics.

OBJECTIVES	GOALS	STRATEGIES	OUTCOMES
Gather place based intelligence and coordinate resources	Analyze city-wide data	<ul style="list-style-type: none">Examine and integrate crime and place datasets	Completion of integrated data sets
		<ul style="list-style-type: none">Analyze persistent crime and nuisance trends to identify potential places for intervention	Identification of violent crime places
	Assemble place based policing governing board	<ul style="list-style-type: none">Identify key city personnel, community partners, service providers, and legal aid and community development representatives to serve on board and lead stabilization/sustainability teams	Contact with potential representatives and selection of governing board personnel
		<ul style="list-style-type: none">Identify industry/organization agents (e.g., Rental Association) to meet with board and advocate for owner interests and offer best practice crime-reduction strategies	Secured participation agreements from agents
		<ul style="list-style-type: none">Schedule regular board meetings to review intelligence, coordinate resources, select places for intervention, and make recommendations	# of board meetings scheduled
	Identify violent places for targeted intervention	<ul style="list-style-type: none">Develop criteria to target places for intervention	# of criteria identified
		<ul style="list-style-type: none">Establish program outcome evaluation design	Adoption of research methodology
		<ul style="list-style-type: none">Select places based on criteria and evaluation methodology	# of places selected
	Conduct place based investigations	<ul style="list-style-type: none">Create CPD place based investigation teams	# of teams established
<ul style="list-style-type: none">Establish process for conducting place based investigations		Adoption of formalized procedures/ guidelines	
<ul style="list-style-type: none">Partner with CIRV and city solicitor to coordinate intelligence gathering		# of CIRV board meetings in which place cases are reviewed	
<ul style="list-style-type: none">Introduce patrol data collection/reporting improvements		# of officers and managers trained on specialized data collection techniques	
Reduce violence and document outcomes	Address conditions that facilitate violence	<ul style="list-style-type: none">Review intelligence with governing board teams	# of board meetings held
		<ul style="list-style-type: none">Identify interventions to disrupt criminal opportunities	# of interventions identified per place
		<ul style="list-style-type: none">Meet with property landlords/owners and offer support services (e.g., landlord education program, neighborhood commercial zone training, governing board recommendations and resources)	# of property owner “call-ins”
		<ul style="list-style-type: none">Pursue voluntary compliance with owners	# of voluntary compliances
	Conduct, review, and document process/impact evaluations	<ul style="list-style-type: none">Review evaluation findings	% decrease in violence crime at places
		<ul style="list-style-type: none">Modify strategies based on evaluation findings, if necessary	# of board meetings in which strategy outcomes are reviewed
<ul style="list-style-type: none">Produce place based investigations guide to replicate approach in other violence-prone places		Completion of guide	
Empower affected communities with strategies to change norms and expectations toward violence (Community Police Partnering Center)	Help communities to develop strategies to sustain reductions in violence at identified locations	<ul style="list-style-type: none">Train and educate owners and community members of identified locations	# of persons contacted
		<ul style="list-style-type: none">Work with communities to implement strategies to sustain reductions in violence at identified locations	
			# of owners contacted
			# of communities where strategies have been implemented to reduce violence

The chart below plots the strategies in the work plan above on over the next year. The panel may wish to request a walk through this timeline.

Implementation of Place-Based Policing Initiative

Tasks	2015		2016											
	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
Examine and integrate crime and place datasets														
Analyze persistent crime and nuisance trends to identify potential places for intervention														
Identify key city personnel, community partners, service providers, and legal aid and community development representatives to serve on board and lead stabilization/sustainability teams														
Identify industry/organization agents (e.g., Rental Association) to meet with board and advocate for owner interests and offer best practice crime-reduction strategies														
Schedule regular board meetings to review intelligence, coordinate resources, select places for interventions, and make recommendations														
Develop criteria to identify places for intervention														
Establish program outcome evaluation design														
Select places based on criteria and evaluation methodology														
Create CPD place based investigation teams														
Partner with CIRV and City Solicitor to coordinate intelligence gathering														
Introduce patrol data collection/reporting improvements														
Review intelligence with governing board teams														
Identify interventions to disrupt criminal opportunities														
Meet with property landlords/owners and offer support services														
Pursue voluntary compliance with owners														
Produce place based investigation guide to replicate approach in other violence prone places														
Train and educate owners and community members of identified locations														
Work with communities to implement strategies to sustain reductions and violence at identified locations														

FIELD-BASED REPORTING

Goal of discussion: Improve deployment intelligence by ensuring officers, supervisors and administrators have access to relevant CAD data.

During our last meeting, CPD explained some of the work performed by Motorola engineers and indicated that their report, due on October 30, would provide the basis for our next milestone: a field based reporting action plan moving forward.

- **Field-Based Reporting Improvement Plan: Update Process**

Item 1: Based on Motorola's report, what is the action plan for improving field-based reporting?

The action plan for improving field based reporting is for Motorola to make some changes on the server side (load balancing, registry changes) to help improve the time that it take a report to be accepted by the server.

Item 2: Where are we on the Project Plan provided by ETS (see attached)? Are there changes needed for the milestones/owners/deadlines?

- a.) Configuration – data field changes/deletions, server configurations
- b.) Training – in-service refresher, permanent RMS trainer at Academy
- c.) Enhancements – still reviewing Motorola's Patrol Box solution
- d.) Bug Fixes – server side fixes suggested by Motorola
- e.) Performance Assessment – Motorola network technicians on site October 13t/14th and performed an assessment (see supplement preliminary report).
- f.) Obtain message size for each report – Motorola did not see this as a problem.
- g.)

Field-Based Reporting Improvement Plan

	Task	Owner	
1	Assessment – Current Motorola Software used in field	CPD IT, ETS	Currently in the process of completing Block 1
	a) Configuration		
	b) Training		
	c) Enhancements		
	d) Bug Fixes		
	e) Performance assessment		
	f) Obtain message size for each report		
2	Motorola Software options	CPD IT	CPD has contacted Motorola to address Blocks 2 and 3
3	Information Gathering – Third party integration options with Motorola RMS	CPD IT	
	a) Does Motorola allow third party software integration with their RMS.		
	b) Does Motorola provide published API (Application Programming Interface) for third party software integration with RMS		
4	Alternate Field Software – Assessment	OPDA, CPD, ETS	
5	Software Development Options - Assessment:	CPD, ETS, OPDA	
	a) Off-the-shelf products		
	a. Pamet		
	b. TriTech		
	c. Optimum Technology		
	d. OHLEG		
	e. TriBridge		
	f. InterAct		
	g. Spillman		
	h. NORIS (Lucas County)		
	i. http://www.nationalmodel.us/		
b) In House development – various methodologies			
c) Custom Software Development Consultants – Development, Costs, maintenance.			

Item 3: Beyond system testing, have the officers in the field been surveyed regarding their experiences? What have been the survey results? Any improvements or additional issues uncovered?

Officers have been surveyed during their in-service training refresher on RMS. We have entered about 250 of the 1000 surveys. Additional issues include (1) comfort (screen position, add keyboard and/or mouse), (2) speed of in car computer, and (3) remove some data fields.

We are researching replacements for the current MDCs (support ends 06/01/17) that include laptops and tablets. In addition, the mounts for these solutions are not as space consuming and some are adjustable. We are currently testing mice/keyboards in some cars. This should help address issues 1 and 2. As for the third, duplicate fields have been removed. All of the remaining fields are either needed for NIBRS or have been requested by CPD.

Item 4: Please provide an update and next steps on field based reporting: a) data transfer, b) additional training, c) [presentation] changes to the system.

Next steps: implement any Motorola suggested fixes; continue refresher training; work on setting up additional training; ride alongs with officers to see what problems they are encountering; explore Wi-Fi solution with ETS and CBTS.

OTHER UPDATES

- **Body cameras.**

The RFP for the Body Cameras will be completed Nov. 6th and published on Monday (Nov. 9th). Responses are due by Dec. 1st. The review panel for the proposals is being assembled.

- **Radio equipment**

Mr. Black has approved a direct award for Motorola for the Radio Purchase. The Police Department has sent a request to the Budget Office for the drafting of an ordinance for Council approval. The intention is to have the ordinance on Council's agenda for November 18th for committee referral. This would allow the ordinance to be back to Council for approval on December 1st. Finance will present an ordinance at the same time for financing for the purchase. Assuming approval of both ordinances on the 1st, we will be able to finalize a contract and meet the December deadline to avoid reprogramming the current radios.

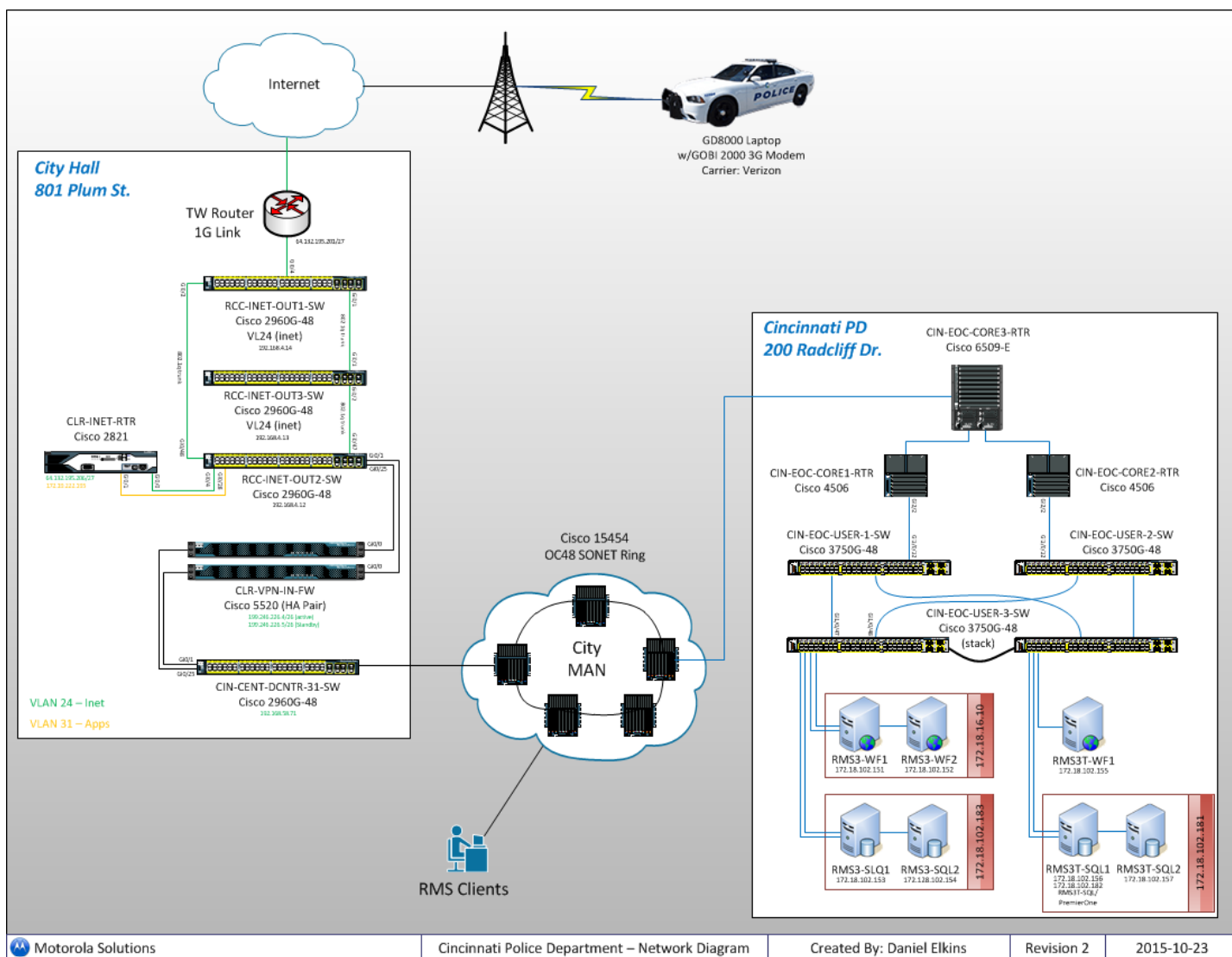
SITE REVIEW

A team of Motorola engineers conducted a site assessment of the Cincinnati, Ohio environment on October 14th and 15th, 2015 to assess current system state and gather data to troubleshoot ongoing issues with the Motorola Records system. Specifically, the team inspected system performance, configuration, hardware and infrastructure as well as conducting end to end packet capturing. The review provided a point in time snap shot of the environment and the data will be instrumental in correcting the current issues.

In summary, the team found the Cincinnati network to be healthy. For the majority of the testing the system was running smoothly. Packet loss and hardware performance are within expected tolerances for the mobile environment. While overall health is solid, the team produced findings to further improve system health and performance. Recommendations to address the findings are detailed in the following report sections and include modifications to the servers to improve TCP response times, repair and implementation of the Microsoft Network Load Balancer. Motorola looks forward to working with Cincinnati to schedule and implement the recommendations and position Cincinnati for improved performance. In those instances where the modifications fall within Cincinnati's area of responsibility, Motorola would like to work with Cincinnati to make the updates together.

NETWORK REVIEW

With the assistance of the CPD, RCIC and ETS Motorola Engineers gathered what is believed to be the full network path that traffic traverses from the mobile client in the field to the RMS servers located at 200 Radcliff Drive. The build of the system includes two production RMS servers connected to two production SQL instances as well as a test environment containing one RMS server connected to two SQL instances. The NLB for the production environment has been disabled for at least the last year due to inconsistencies found between the primary and secondary production server that were deemed irreconcilable. The secondary WF server has been maintained with software updates and revisions while the primary has remained in service and unavailable for maintenance due to production time constraints and lack of redundancy. The network infrastructure is a Cisco based solution with gigabit connectivity from the RMS environment to Time Warner internet at City Hall via the local OC48 MAN as depicted in the following diagram..



Testing

Testing was performed using the Wireshark packet capturing tool. Wireshark was installed on two of Cincinnati's mobile devices and was also in use on the Motorola Engineer's laptops. Motorola laptops were inserted on a mirror of the network interface on the server side to capture the server side data in addition to capturing locally on the Cincinnati mobile devices. Data was captured on both the server and client sides during one in house report input and three in the field report inputs.

Analysis

During the testing two failures inputting reports were captured by Wireshark and analyzed. These failures were a result of a packet that was lost from the server to the client. Typically TCP is able to correct these

problems and continue without affecting the application. In the case of these two failures the client's notifications to the server of the missing packet were ignored for far too long before the data was re-sent. This resulted in an extremely large amount of out of order packets delivered to the client.

RECOMMENDATIONS

It is highly recommended that the Microsoft Network Load Balancer issues are corrected and the system is put into use. It is also recommended that the RMS server's TcpMaxDupACKs registry setting be reviewed. If this setting is too high it will need to be lowered. If the setting is in the correct range more investigative work needs to be done to discover the failure of the server to send the fast retransmit in a timely manner.